



Department of Natural Resources and Parks Wastewater Treatment Division

April 28, 2017

West Point Treatment Plant Restoration - Routine Effluent Quality Monitoring Data

This file contains a compilation of King County's influent and effluent water quality monitoring data that is being collected at the West Point wastewater treatment plant. This file contains data for parameters that are routinely collected on a frequent basis (i.e., daily, weekly, monthly) in the West Point influent and effluent, as required by the National Pollutant Discharge Elimination System (NPDES) permit for West Point. These frequently measured parameters include flows, rainfall, total suspended solids, biochemical oxygen demand, pH, residual chlorine, fecal coliform bacteria, and nutrients. The attached files contain the final data for the March 2017 monthly reporting period under the NPDES permit, and updated current partial data collected through April 21, 2017.

While repairs are underway to repair the treatment processes that were damaged in the flooding on February 9, 2017, the reduced level of treatment has resulted in changes in the concentrations of certain parameters that are not being removed at the same level of performance that occurs under normal West Point operations. The following notes provide information on the current status of treatment-affected parameters:

- For the month of March, effluent limitations for total suspended solids and biochemical oxygen demand were not met as a result of the flooding damage and ability of the plant to provide only partial treatment (i.e., limited primary and secondary treatment).
 - Note: effluent concentrations for total suspended solids and biochemical oxygen demand also were periodically elevated in March compared to influent sample concentrations. The higher effluent values reflect temporary and intermittent conditions where greater amounts of the constituents were being discharged compared to the influent loading.
- In March, the effluent just met the monthly average limit for total residual chlorine. With the reduced level of treatment at West Point while restoration of the secondary biological treatment process was underway, the generally higher suspended solids concentrations resulted in additional demand for chlorine disinfection and dechlorination process chemical additions. Additionally, the flows that continued to be variable with storm events, and variable solids concentrations, made it challenging to closely control the chemical additions.
- In April, steady progress was made to restore the secondary treatment process. Removal of suspended solids and biochemical oxygen demand slightly improved, as well as the ability to control residual chlorine levels.

The "Preliminary Draft Data" watermark refers to analyses completed and validated by King County; however, submittal of the final data to Ecology is pending completion of all sampling and analysis within the current monthly reporting period.

If you have questions about this document, contact Jeff Lafer at 206-477-6315, or email him at jeff.lafer@kingcounty.gov.

Alternative Formats Available
206-477-5371, TTY Relay: 711

Day of the Month	Influent						Effluent						
	Weekly	Weekly	Daily	Daily	Daily	Daily	CONT MEASURE	Daily	Daily	Monthly	Daily	Daily	Monthly
	COMP	CALC	COMP	CALC	COMP	CALC	MGD	COMP	CALC	CALC	COMP	CALC	CALC
	MG/L	LBS/DAY	MG/L	LBS/DAY	MG/L	LBS/DAY		MG/L	LBS/DAY	%	MG/L	LBS/DAY	%
Units									REMOVAL			REMOVAL	
	BOD 5-DAY	BOD 5-DAY	CBOD5	CBOD5	TSS	TSS	FLOW	CBOD 5-DAY	CBOD 5-DAY	CBOD 5-DAY	TSS	TSS	TSS
04/01/17	154	124493	142	114792	129	104283	96.93	60	48,504	57.7	42	33,953	67.4
04/02/17	198	175767	153	135820	194	172216	106.44	69	61,252	54.9	54	47,936	72.2
04/03/17	187	146632	162	127029	142	111346	94.02	70	54,889	56.8	44	34,502	69.0
04/04/17	182	139007	144	109984	154	117622	91.58	74	56,520	48.6	51	38,953	66.9
04/05/17	119	162952	111	151997	152	208140	164.19	74	101,332	33.3	94	128,718	38.2
04/06/17	134	156626	123	143769	140	163639	140.15	58	67,793	52.8	73	85,326	47.9
04/07/17	126	152435	116	140337	122	147596	145.06	76	91,945	34.5	77	93,155	36.9
04/08/17	121	124356	107	109968	116	119218	123.23	56	57,553	47.7	81	83,247	30.2
04/09/17	155	120363	132	102503	166	128905	93.11	56	43,486	100.0	83	64,453	50.0
04/10/17	129	149792	94	109151	78	90572	139.23	86	99,861	8.5	112	130,052	-43.6
04/11/17	196	155781	148	117631	166	131937	95.30	54	42,919	63.5	60	47,688	63.9
04/12/17	107	166045	92	142768	142	220359	186.07	77	119,490	16.3	112	173,804	21.1
04/13/17	119	161285	96	130112	106	143665	162.51	71	96,229	26.0	76	103,005	28.3
04/14/17	166	146003	141	124015	150	131930	105.46	60	52,772	57.4	77	67,724	48.7
04/15/17	175	137412	152	119352	158	124063	94.15			100.0	74	58,106	53.2
04/16/17	159	120247			158	119491	90.68	54	40,839		71	53,695	55.1
04/17/17					168	124349	88.75				66	48,852	60.7
04/18/17					190	150458	94.95				79	62,559	58.4
04/19/17					212	194400	109.95				112	102,702	47.2
04/20/17					150	160866	128.59				111	119,041	26.0
04/21/17					176	126587	86.24				50	35,962	71.6
04/22/17													
04/23/17													
04/24/17													
04/25/17													
04/26/17													
04/27/17													
04/28/17													
04/29/17													
04/30/17													

Permit No. WA-002918-1
 Facility Name West Point WWTP
 Receiving Water Puget Sound
 Plant Type Secondary

Discharge No. 001

Month April Year 2017

Frequency	Effluent										Emerg. Bypass Hours	Emerg. Bypass MG	
	CONT MEASURE STANDARDS UNITS	CONT MEASURE STANDARDS UNITS	CONT MEASURE µg/L	Daily Grab #/100 ML	Monthly COMP MG/L-N	Monthly CALC LBS/DAY	Monthly COMP MG/L-N	Monthly MEASURE MG/L-N	Monthly COMP MG/L-P	Monthly MEASURE MG/L-P			
Type											Duration (Hours)	Total Volume (MG)	Rainfall (Inch)
Units													
Day of the Month	pH, Daily Minimum	pH, Daily Maximum	CHLORINE RESIDUAL (after dechlor.)	FECAL COLIFORM	TOTAL AMMONIA	TOTAL AMMONIA	NITRATE-NITRITE	TOTAL KJELDAHL NITROGEN	TOTAL PHOSPHOROUS	ORTHO-PHOSPHATE			
04/01/17	6.7	7.0	40	0								0.00	
04/02/17	6.7	6.9	20	800	15.2	13,493		24.2	3.45	1.64		0.09	
04/03/17	6.7	6.8	50	20								0.00	
04/04/17	5.9	7.6	80	40								0.09	
04/05/17	6.7	7.3	80	1,700								0.46	
04/06/17	6.6	7.1	40	70								0.12	
04/07/17	6.6	7.3	90	230								0.46	
04/08/17	6.6	6.8	80	20								0.02	
04/09/17	6.5	6.7	100	0	12.0	9,318		20.6	3.62	2.33		0.01	
04/10/17	6.3	6.8	220	800								0.40	
04/11/17	6.4	6.6	110	0								0.01	
04/12/17	6.2	7.2	140	900								0.71	
04/13/17	6.4	7.4	120	20								0.05	
04/14/17	6.4	6.7	130	40								0.00	
04/15/17	6.4	7.6	40	40								0.00	
04/16/17	6.4	6.7	190	0	8.6	6,504		18.2		1.71		0.00	
04/17/17	6.3	6.6	70	0								0.01	
04/18/17	6.3	6.5	110	40								0.11	
04/19/17	6.3	6.6	280	0								0.37	
04/20/17	6.2	6.7	320	130	7.2	7,722						0.00	
04/21/17	6.5	6.9	190	0								0.00	
04/22/17													
04/23/17													
04/24/17													
04/25/17													
04/26/17													
04/27/17													
04/28/17													
04/29/17													
04/30/17													

Day of the Month	Influent												
	Weekly	Weekly	Daily	Daily	Daily	Daily	CONT	Daily	Daily	Monthly	Daily	Daily	Monthly
	COMP	CALC	COMP	CALC	COMP	CALC	MEASURE	COMP	CALC	CALC	COMP	CALC	CALC
	MG/L	LBS/DAY	MG/L	LBS/DAY	MG/L	LBS/DAY	MGD	MG/L	LBS/DAY	%	MG/L	LBS/DAY	%
Units							REMOVAL						
	BOD 5-DAY	BOD 5-DAY	CBOD5	CBOD5	TSS	TSS	FLOW	CBOD 5-DAY	CBOD 5-DAY	CBOD 5-DAY	TSS	TSS	TSS
03/01/17	180	135844	172	129806	258	194709	90.49	140	105,656	18.6	113	85,280	56.2
03/02/17	243	181727	215	160787	306	228841	89.67	163	121,899	24.2	146	109,186	52.3
03/03/17	235	228701	182	177121	396	385385	116.69	154	149,872	15.4	221	215,076	44.2
03/04/17	167	167872	131	131684	248	249295	120.53	122	122,637	6.9	144	144,752	41.9
03/05/17	231	200784	171	148632	270	234683	104.22	140	121,687	18.1	137	119,080	49.3
03/06/17	205	143375	188	131486	182	127289	83.86	143	100,013	23.9	120	83,927	34.1
03/07/17	134	153709	102	117003	162	185828	137.54	123	141,091	-20.6	227	260,388	-40.1
03/08/17	164	138130	127	106967	214	180243	100.99	121	101,913	4.7	118	99,386	44.9
03/09/17	215	244866	160	182226	314	357618	136.56	97	110,474	39.4	139	158,309	55.7
03/10/17	87	95392	144	157890	236	258765	131.47	116	127,189	19.4	114	124,996	51.7
03/11/17	146	163846	127	142523	194	217713	134.56	119	133,545	6.3	122	136,912	37.1
03/12/17	197	157348	151	120607	266	212460	95.77	123	98,243	18.5	116	92,652	56.4
03/13/17	177	218327	104	128283	182	224494	147.90	102	125,816	1.9	141	173,922	22.5
03/14/17	95	147487	77	119542	162	251504	186.15	80	124,199	-3.9	103	159,907	36.4
03/15/17	71	120536	52	88280	72	122234	203.56	66	112,048	-26.9	89	151,094	-23.6
03/16/17	127	173144	106	144514	160	218134	163.47	114	155,421	-7.5	108	147,241	32.5
03/17/17	146	198013	118	160038	207	280744	162.62	117	158,681	0.8	122	165,463	41.1
03/18/17	69	117659	48	81849	99	168814	204.46	57	97,196	-18.8	77	131,300	22.2
03/19/17	117	158135	91	122994	122	164893	162.06	94	127,049	-3.3	86	116,236	29.5
03/20/17	161	160941	126	125954	195	194928	119.86	138	137,949	-9.5	133	132,951	31.8
03/21/17	161	158403	135	132822	192	188903	117.97	126	123,968	6.7	106	104,290	44.8
03/22/17	146	123737	121	102549	164	138992	101.62	101	85,599	16.5	63	53,393	61.6
03/23/17	209	163290	154	120319	248	193760	93.68	120	93,755	22.1	71	55,472	71.4
03/24/17	198	295388	175	261075	264	393851	178.88	110	164,105	37.1	114	170,072	56.8
03/25/17	167	163150	122	119188	158	154358	117.14	87	84,994	28.7	66	64,479	58.2
03/26/17	136	144548	114	121165	180	191313	127.44	107	113,725	6.1	94	99,908	47.8
03/27/17	169	160382	125	118626	202	191700	113.79	95	90,156	24.0	68	64,533	66.3
03/28/17	172	146016	147	124793	182	154505	101.79	92	78,101	37.4	61	51,785	66.5
03/29/17	113	160946	91	129612	167	237859	170.78	76	108,247	16.5	85	121,066	49.1
03/30/17	123	140219	105	119699	130	148199	136.69	76	86,640	27.6	63	71,820	51.5
03/31/17	168	143461	140	119551	168	143461	102.39	77	65,753	45.0	50	42,697	70.2

Day of the Month	Effluent										Emerg. Bypass Hours	Emerg. Bypass MG	Duration (Hours)	Total Volume (MG)	Rainfall (Inch)	
	Frequency	CONT	CONT	CONT	Daily	Monthly	Monthly	Monthly	Monthly	Monthly						
	Type	MEASURE	MEASURE	MEASURE	Grab	COMP	CALC	COMP	MEASURE	COMP						MEASURE
	Units	STANDARD UNITS	STANDARD UNITS	µg/L	#/100 ML	MG/L-N	LBS/DAY	MG/L-N	MG/L-N	MG/L-P						MG/L-P
	pH, Daily Minimum	pH, Daily Maximum	CHLORINE RESIDUAL (after dechlor.)	FECAL COLIFORM	TOTAL AMMONIA	TOTAL AMMONIA	NITRATE-NITRITE	TOTAL KJELDAHL NITROGEN	TOTAL PHOSPHOROUS	ORTHO-PHOSPHATE						
03/01/17	7.3	7.7	80	20												0.00
03/02/17	7.2	7.6	110	170												0.05
03/03/17	6.6	7.2	140	0												0.37
03/04/17	6.9	7.2	110	800												0.05
03/05/17	6.8	7.2	120	260	13.7	11,908		23.5	3.31	1.78						0.14
03/06/17	7.0	7.5	120	130												0.00
03/07/17	6.9	7.2	280	500												0.40
03/08/17	7.0	7.3	120	110												0.02
03/09/17	6.6	7.5	190	170												0.58
03/10/17	6.8	7.2	90	500												0.02
03/11/17	6.7	7.3	280	170												0.31
03/12/17	6.8	7.2	110	80	13.8	11,022		24.3	3.09	1.75						0.02
03/13/17	6.4	7.4	220	500			1.56									0.36
03/14/17	6.7	7.2	90	230												0.56
03/15/17	6.7	7.1	180	130												0.45
03/16/17	6.8	7.4	200	70												0.01
03/17/17	6.7	7.1	350	300												0.88
03/18/17	6.7	7.1	70	170												0.37
03/19/17	6.7	7.5	70	80	8.4	11,353		14.6	1.98	1.11						0.00
03/20/17	6.2	7.2	100	300												0.00
03/21/17	6.8	7.2	100	500												0.18
03/22/17	6.8	7.1	80	40												0.03
03/23/17	6.8	7.1	40	80												0.22
03/24/17	6.5	7.2	150	1,300												0.29
03/25/17	6.7	7.0	90	40												0.01
03/26/17	6.1	7.1	130	0	15.2	16,155		24.5	3.23	1.95						0.20
03/27/17	6.8	7.3	40	20												0.01
03/28/17	6.8	7.1	140	70												0.02
03/29/17	6.4	7.0	350	500												0.54
03/30/17	6.8	7.3	70	800												0.04
03/31/17	6.8	7.0	100	0												0.00